J. S. JOHNSTON.

ATTACHMENT FOR GUIDING EDGING TO SEWING MACHINES.

APPLICATION FILED JUNE 14, 1909.

1,006,096. **Patented Oct. 17, 1911.**

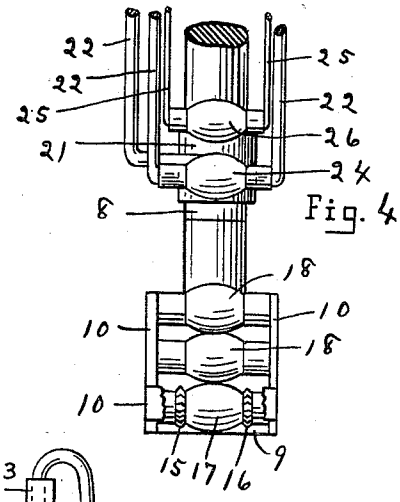

Fig. 4

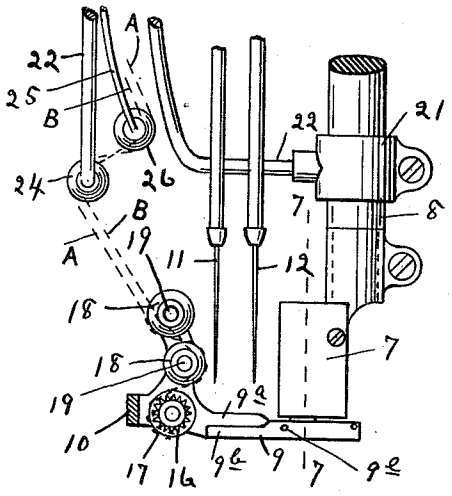

Fig. 5

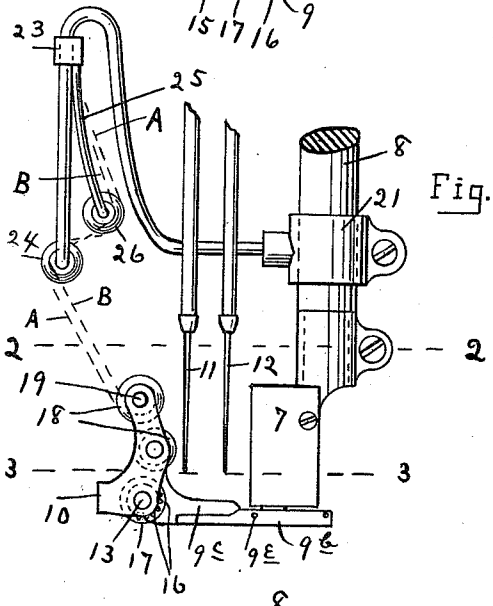

Fig. 1.

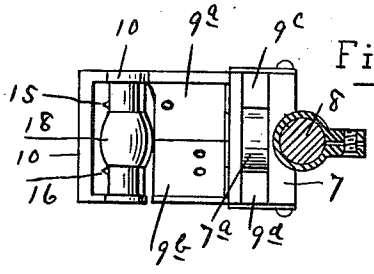

Fig. 2.

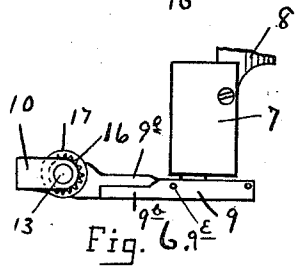

Fig. 6.

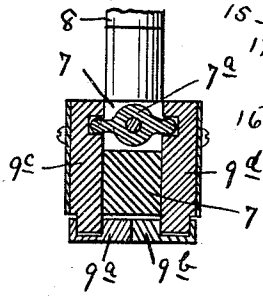

Fig. 7.

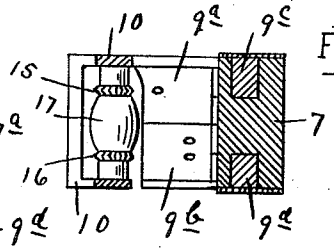

Fig. 3.

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ATTACHMENT FOR GUIDING EDGING TO SEWING-MACHINES.

1,006,096. Specification of Letters Patent. Patented Oct. 17, 1911.

Application filed June 14, 1909. Serial No. 501,930.

To all whom it may concern:

Be it known that I, JAMES S. JOHNSTON, a resident of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Attachments for Guiding Edging to Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The purpose of my present invention is to provide a device for guiding cross bar edging to the stitch forming mechanism of a sewing machine. My device is adapted to spread out the edging to its full width and to draw the cross bars to their proper angle with reference to the edging and hold them in place while the edging is guided up to the stitch-forming mechanism. My device is adapted to accomplish these results with edging having cross bars at right-angles to the edging and with edging having cross bars at other than right-angles and with edging having both straight and diagonal cross bars. My construction is also such as to obviate any possibility of the edging being stopped on account of cross bars catching in the device even if the cross bars should happen to be drawn out of normal position.

Figure 1 is a side elevation of my attachment applied to the presser-foot of a sewing machine; Fig. 2 is a plan view on line 2—2 of Fig. 1; Fig. 3 is a horizontal sectional view on line 3—3 of Fig. 1; Fig. 4 is a front elevation; Fig. 5 is a side elevation with a part of the roller-supporting frame removed; Fig. 6 is a side elevation of one form of my attachment; and Fig. 7 is a sectional view on line 7—7, Fig. 5.

Referring to the reference letters and figures in a more particular description, 7 is the shank of a sewing machine presser-foot suitably mounted on the presser-bar 8.

9 is the foot portion of the presser-foot which is extended in front more than its usual length and so constructed as to form the roller-supporting frame 10.

11 and 12 are the usual needles used for sewing cross bar edging to the material through the continuous or more solid portions at or near the sides of the edging. The needles are arranged one at one side of the central line of the work, as at 11, and on the opposite side a pair of needles 12, Figs. 2 and 3, showing the needle apertures in the presser-foot. In the frame 10 and directly in front of the needles is mounted by means of a pin 13, an edging-roller having thereon two series of spurred projections 15 and 16 in line with the needles 11 and 12, respectively, and adapted to engage the continuous portions of the edging and guide them to the needles. The part 17 of the roller located between the spurred projections 15 and 16, is of gradually enlarged diameter toward its center, this being the preferable form. The roller is located as close as possible to the needles and with its lowest surface on a line with the lower face of the presser-foot. Above the roller are located one or more guiding rollers 18 similar in form to the edging roller, but devoid of the spurs and running on bearing pins 19 parallel with pin 13 and having its largest diameter in a plane with the largest diameter of the portion 17.

The number and arrangement of the rollers 18 may be varied and said rollers may be even dispensed with entirely according to the character of material and work. It is obvious that the greater distance the edging is made to travel on the rollers 17 and 18, irrespective of the number or arrangement thereof the greater will be the guiding and spreading effects upon the edging.

In Figs. 1 and 5 line A represents the course of the center of the cross-bar portion of the edging over the enlarged centers of the several rollers. Line B—B represents the course of the continuous portion of the edging over the smaller parts of rollers 18 and over the spurred projections 15 or 16.

The construction of the whole attachment is such as to spread the edging to its full width, to straighten out the cross bars to their normal angle and to guide the continuous portions of the edging to the needles.

Between the spool of edging and the roller first reached by the edging there is provided an equalizing tension to take up the slack and to relieve the edging from the hardest pulls as it is drawn toward the stitch-forming mechanism over the rolls and

spurs described. In the tension shown, 21 is a clamp fastened to the presser bar 8, from which extends a bracket 22 having an offset to avoid the needles and provided with guide-roller 24, similar to the rollers 18, over which the edging is drawn. Suitably mounted upon the bracket 22 is a spring 25 having a guiding-roller 26 operating upon the edging in such manner as to yield under heavy strain upon the edging and also to take up the slack in the edging when it runs too loosely.

The presser-foot 9 consists of two movable parts or feet 9^a and 9^b mounted on vertical slides 9^c and 9^d respectively, in the body 7 and connected for relative movement by an equalizing bar or lever 7^a pivoted to the body 7. The feet 9^a and 9^b are pivoted to their respective slides on a horizontal pivot 9^e permitting a limited amount of swinging or floating movement with reference to its slide. The two parts 9^a and 9^b of the equalizing presser-foot bear upon opposite continuous portions of the edging and by their relative movement equalize the pressure upon the two sides of the edging and hence equalize the feed of the two sides of the edging. The equal feed thus obtained assists in keeping the edging in proper position as it is being guided to the stitch-forming mechanism.

It is evident that various changes in and from the construction herein shown can be made without departing from the spirit of my invention.

What I claim as new and desire to secure by Letters Patent is:

1. In combination with a sewing machine having a plurality of needles, a presser-foot having an edging roller journaled therein, said roller comprising a central portion having its greatest diameter in the center thereof, and on each side of said central portion being provided with peripheral projections.

2. In combination with a sewing machine having a plurality of needles, a presser-foot mechanism comprising a horizontal foot for engaging the work and coöperating with the sewing machine feed, said foot having means on its opposite sides for engaging and holding the edges of the work, and between said engaging and holding means being provided with a guiding and spreading means tapering from its center in opposite directions toward said engaging and holding means.

3. In combination with a sewing machine having a plurality of needles, a presser-foot having means on its opposite sides for engaging and holding the edges of the work, and between said engaging and holding means being provided with a guiding and spreading means tapering from its center toward opposite sides, all said means being arranged in advance of the needles and a tension device arranged in the path of travel of the work in advance of the holding and engaging means.

4. In combination with a sewing machine having a plurality of needles, a presser-foot having an edging roller journaled therein, said roller comprising a central portion having its greatest diameter in the center thereof, and on each side of said central portion being provided with peripheral projections, and a guiding and spreading roller around which the work passes before passing into engagement with the edging roller.

5. In combination with a sewing machine having a plurality of needles, a presser-foot having an edging roller journaled therein, said roller comprising a central portion having its greatest diameter in the center thereof, and on each side of said central portion being provided with peripheral projections, and a tension device for engaging the work to keep the same taut.

6. An edging guiding mechanism comprising a yielding support, a guiding roller journaled therein, a two-part union presser-foot arranged in rear of said roller, and means connecting the two parts of the foot whereby as one is raised the other will be depressed.

7. An edging guiding mechanism having, in combination, a roller having means for stretching and holding the work, a yielding support for said roller and a two-part yielding presser-foot arranged in rear of said roller.

In witness whereof, I have affixed my signature in the presence of two witnesses this 9th day of June, 1909.

JAMES S. JOHNSTON.

Witnesses:
EMMA S. HESSE,
ROY CUNNINGHAM.